Geometry

Name ANSWER KEY

ALGEBRA REVIEW PACKET

Per. _____ Date _____

These are some of the necessary skills that you will need from Algebra last year. This is your chance to review and make sure you have mastered them before we begin with Geometry! ☺

Rounding Numbers

Remember: ***Look at the number to the right of the place you are rounding to. If it is 5 or above – round up. If it is below 5 it stays the same.***

whole number = no decimal place
tenth = *one decimal place*
thousandths = *three decimal places*
hundredth = *two decimals places*

Target R1 **Practice: Round the following numbers to the specified place values.**

Round to the nearest whole number:

1.	21.684	**2.**	12.436	**3.**	8.962	**4.**	0.752	**5.**	1.123
	22		12		9		1		1

Round to the nearest tenth:

6.	14.852	**7.**	5.52	**8.**	6.476	**9.**	0.423	**10.**	185.038
	14.9		5.5		6.5		0.4		185.0

Round to the nearest hundredth:

11.	0.2587	**12.**	12.9852	**13.**	1.2629	**14.**	35.42385	**15.**	1.3695
	0.26		12.99		1.26		35.42		1.37

Target R2 ***Order of Operations***

Remember:

Parenthesis/groups/fraction bars
Exponents
*Multiplication**
*Division**
*Addition**
*Subtraction**

** Multiplication/Division and Addition/Subtraction are always done in order from left to right!*

Practice:

16. $4+7-12\div 3$

$4+7-4$

$11-4 = 7$

17. $12\bullet 3\div 6-9$

$= -3$

18. $(11+4)\div 3-2$

$15\div 3-2 = 3$

19. $3(6+7)$

$18+21 = 39$

20. $2+7\cdot 5$

$2+35=37$

21. $48\div(4+4)$

$48\div 8 = 6$

22. $8(2+7)-15$

$16+56-15$

$=57$

23. $14\div 7-12\div 3$

$2-4=-2$

24. $(6+25-7)\div 6$

$24\div 6=4$

25. $(6-4)\bullet 49\div 7$

$2\cdot 49\div 7$

$=14$

26. $\dfrac{43-1}{4+2}+10$

$\dfrac{42}{6}+10=17$

27. $\dfrac{45}{8(5-4)-3}$

$\dfrac{45}{8(1)-3} = \dfrac{45}{8-3} = \dfrac{45}{5}$

$=9$

28. $8\bullet\dfrac{15}{5}-(5+9)$

$8\cdot 3-14$

$=10$

29. $(10+2-2)\bullet 6-1$

$10\cdot 6-1$

$=59$

30. $(2+6\times 2+2-4)\bullet 2$

$(2+12+2-4)\cdot 2$

$12\cdot 2$

$=24$

Target R3 ***Solving Equations***

Ex: 1. $x+5=-1$

$-5\quad -5$

$x=-6$

2. $y-(-2)=-7$

$y+2=-7$

$-2\quad -2$

$y=-9$

3. $\dfrac{x}{5}=-2$

$5\bullet\dfrac{x}{5}=-2\bullet 5$

$x=-10$

4. $3y=-18$

$\dfrac{3y}{3}=\dfrac{-18}{3}$

$y=-6$

5. $\dfrac{x}{4}=-3$

$4\bullet\dfrac{x}{4}=-3\bullet 4$

$x=-12$

6. $4(-2x-11)=92$

$-8x-44=92$

$+44\quad +44$

$-8x=136$

$\dfrac{-8x}{-8}=\dfrac{136}{-8}$

$x=-17$

Practice: Solve for the variables.

31. $x - 2 = 10$

$+2 \quad +2$

$x = 12$

32. $6\left(\frac{x}{6} = -4\right)6$

$x = -24$

33. $5x = -25$

$\frac{5x}{5} = \frac{-25}{5}$

$x = -5$

34. $x - (-7) = -4$

$x + 7 = -4$

$-7 \quad -7$

$x = -11$

35. $-3x - 2 = 7$

$+2 \quad +2$

$\frac{-3x}{-3} = \frac{9}{-3}$

$x = -3$

36. $4\left(\frac{x}{4} - 2 = 1\right)4$

$x - 8 = 4$

$+8 \quad +8$

$x = 12$

37. $9x - 7 = -7$

$+7 \quad +7$

$\frac{9x}{9} = \frac{0}{9}$

$x = 0$

38. $4\left(-6 + \frac{x}{4} = -5\right)4$

$-24 + x = -20$

$+24 \quad +24$

$x = 4$

39. $2(n+5) = -2$

$2n + 10 = -2$

$-10 \quad -10$

$\frac{2n}{2} = \frac{-12}{2}$

$n = -6$

40. $144 = -12(x+5)$

$\frac{144}{-12} = \frac{-12(x+5)}{-12}$

$-12 = x + 5$

$-5 \quad -5$

$-17 = x$

41. $7(9+x) = 84$

$63 + 7x = 84$

$-63 \quad -63$

$\frac{7x}{7} = \frac{21}{7}$

$x = 3$

42. $-16\left(\frac{x+5}{-16} = -1\right)-16$

$x + 5 = 16$

$-5 \quad -5$

$x = 11$

43. $a + 5 = -5a + 5$

$+5a \quad +5a$

$6a + 5 = 5$

$-5 \quad -5$

$6a = 0$

$a = 0$

44. $p - 4 = -9 - p$

$+p \quad +p$

$2p - 4 = -9$

$+4 \quad +4$

$2p = -5$

$p = -\frac{5}{2}$

45. $5y - 14 = 8y + 4$

$-5y \quad -5y$

$-14 = 3y + 4$

$-4 \quad -4$

$\frac{-18}{3} = \frac{3y}{3}$

$y = -6$

46. $y - 1 = 5y + 3y - 8$

$y - 1 = 8y - 8$

$-y \quad -y$

$-1 = 7y - 8$

$+8 \quad +8$

$\frac{7}{7} = \frac{7y}{7}$

$y = 1$

47. $-18 - 6y = 6 + 18y$

$+6y \quad +6y$

$-18 = 6 + 24y$

$-6 \quad -6$

$\frac{-24}{24} = \frac{24y}{24}$

$-1 = y$

48. $5n + 34 = -2(1 - 7n)$

$5n + 34 = -2 + 14n$

$-5n \quad -5n$

$34 = -2 + 9n$

$+2 \quad +2$

$\frac{36}{9} = \frac{9n}{9}$

$n = 4$

49. $3(5x - 3x) + 5 = 47$

$3(2x) + 5 = 47$

$6x + 5 = 47$

$-5 \quad -5$

$\frac{6x}{6} = \frac{42}{6}$

$x = 7$

50. $26a - 22 = -4(1 - 6a)$

$26a - 22 = -4 + 24a$

$-24a \quad -24a$

$2a - 22 = -4$

$+22 \quad +22$

$\frac{2a}{2} = \frac{18}{2}$

$a = 9$

51. $3x + 2(x+2) = 13 - (2x+2)$

$3x + 2x + 4 = 13 - 2x - 2$

$5x + 4 = -2x + 11$

$+2x \quad +2x$

$7x + 4 = 11$

$-4 \quad -4$

$\frac{7x}{7} = \frac{7}{7}$

$x = 1$

Target R4 *Solving Equations (with variables squared)*

Remember: *Get the variable squared alone and then square root both sides of the equatio*

Ex:

$$x^2 - 2 = 7$$
$$+2 \quad +2$$
$$\sqrt{x^2} = \sqrt{9}$$
$$x = \pm 3$$

Practice:

52. $y^2 = 16$ → $y = \pm 4$

53. $z^2 = 81$ → $z = \pm 9$

54. $x^2 + 3 = 28$ → $-3 \quad -3$ → $\sqrt{x^2} = \sqrt{25}$ → $x = \pm 5$

55. $x^2 - 5 = 95$ → $+5 \quad +5$ → $\sqrt{x^2} = \sqrt{100}$ → $x = \pm 10$

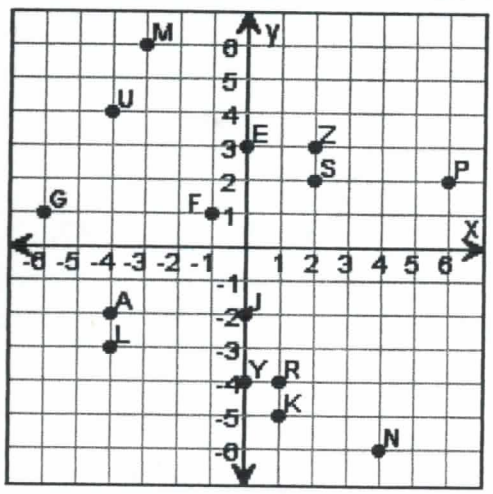
56. $2y^2 = 72$ → $\frac{2}{2} \quad \frac{2}{2}$ → $\sqrt{y^2} = \sqrt{36}$ → $y = \pm 6$

57. $3x^2 = 27$ → $\frac{3}{3} \quad \frac{3}{3}$ → $\sqrt{x^2} = \sqrt{9}$ → $x = \pm 3$

Target R5 *The Coordinate Plane*

Remember: *When plotting points, move in the x direction first and then the y direction.*
(x, y)

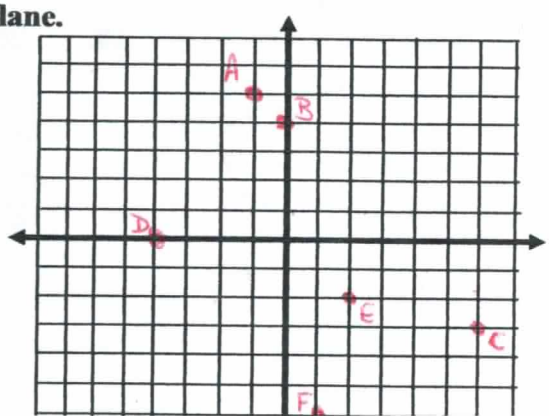
Practice: Give the coordinates for the identified point.



58. E (0, 3)
59. P (6, 2)
60. L (-4, -3)
61. M (-3, 6)
62. Y (0, -4)
63. F (-1, +1)

Practice: Graph and label the following points on the coordinate plane.

64. A (-1, 5)
65. B (0, 4)
66. C (6, -3)
67. D (-4, 0)
68. E (2, -2)
69. F (1, -6)



Target R6 **Graphing Lines**

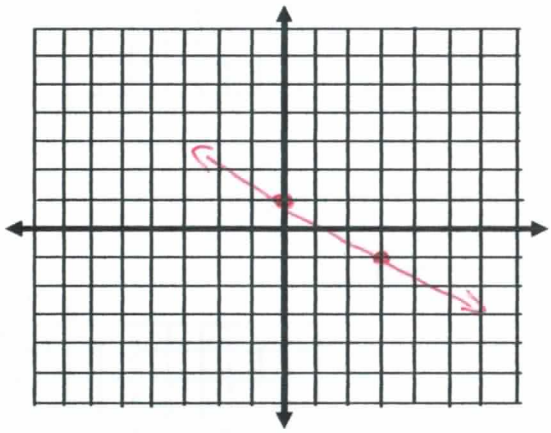
Remember:

$m = \frac{\Delta y}{\Delta x} =$

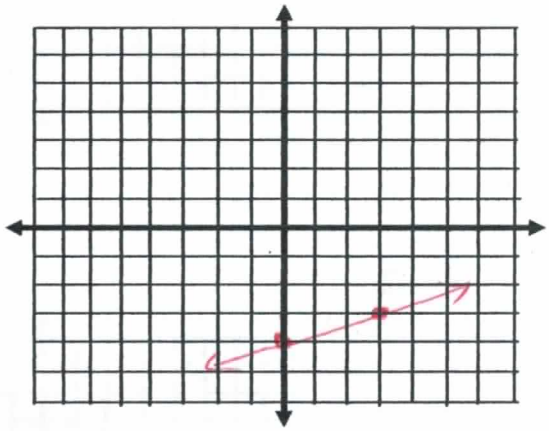
y = mx + b where m = slope and b = y-intercept

x = # (vertical lines) *y = # (horizontal lines)*

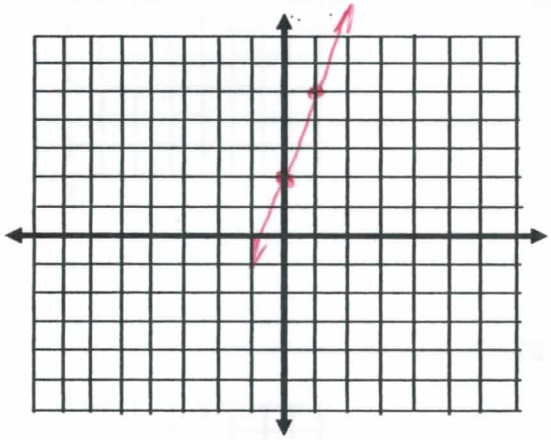
70. $y = -\frac{2}{3}x + 1$



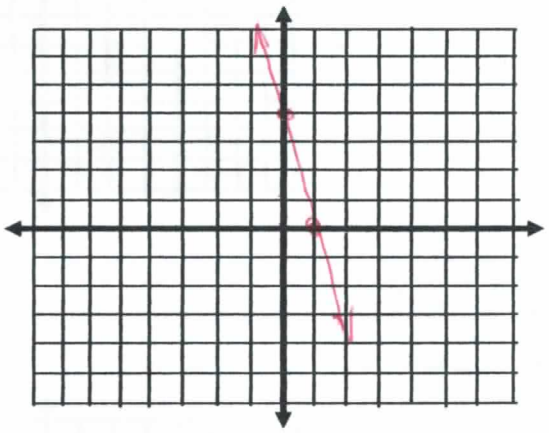
71. $y = \frac{1}{3}x - 4$



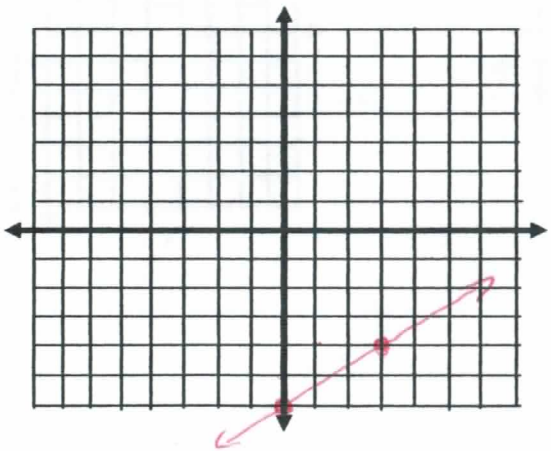
72. $y = 3x + 2$



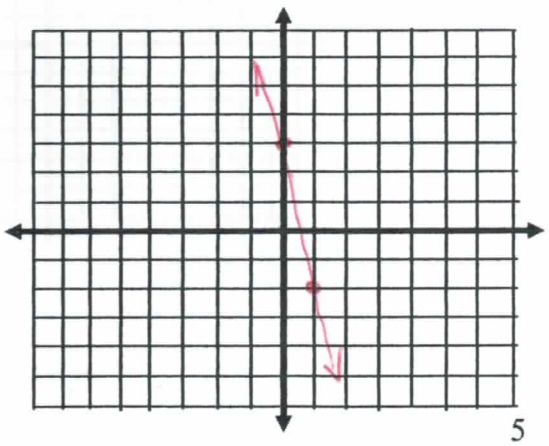
73. $y = -4x + 4$



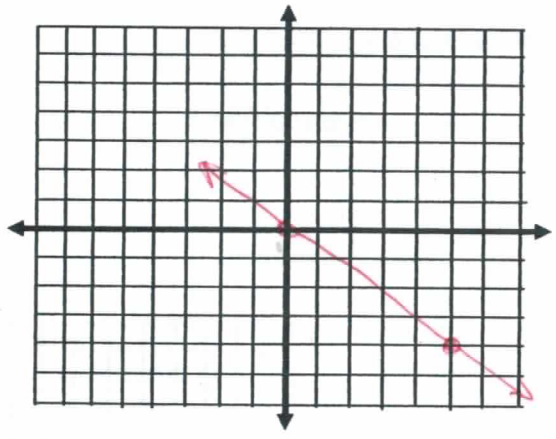
74. $y = \frac{2}{3}x - 6$



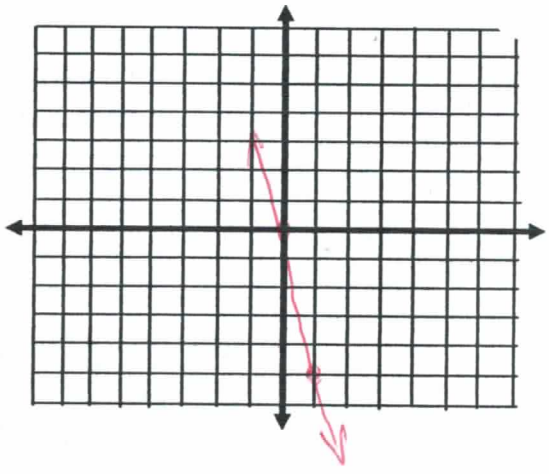
75. $y = -5x + 3$



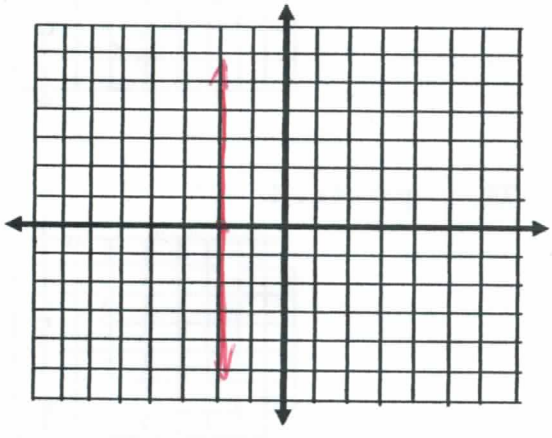
76. $y = -\frac{4}{5}x$



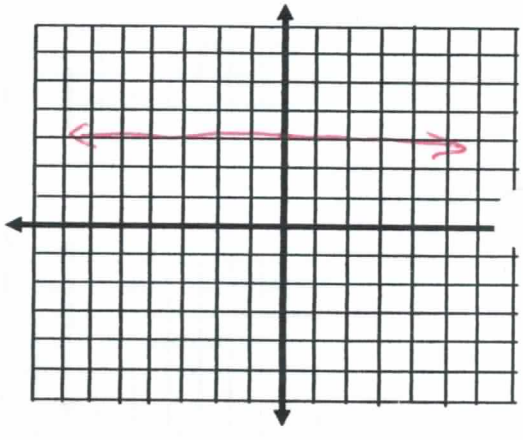
77. $y = -5x$



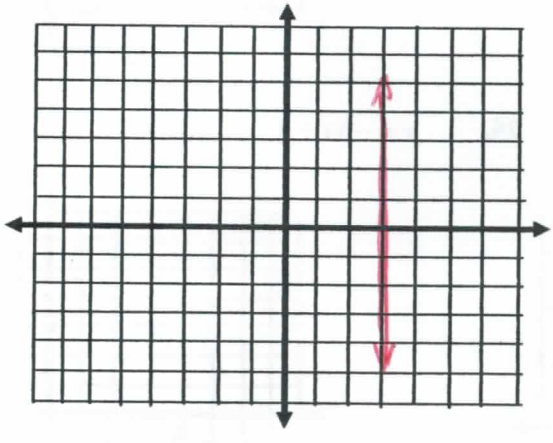
78. $x = -2$



79. $y = 3$



80. $x = 3$



81. $y = -1$